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**Roller-moulding fine fibrous velour finish on surface of extruded thermoplastic sheet - using plastic negative matrix casing on roller hair-fine conical moulding cavities, in conjunction with vacuum shi ensure complete filling by melt**

Assignee: **HCD HYGIENIC COMPOSITES DEV GMBH** Non-standard company  
Inventor: **WAGNER W;**

Accession / Update: **1996-465799 / 200112**

IPC Code: **B29C 41/26 ; B29C 41/50 ; B29C 43/22 ; B29C 41/24 ; B29C 47/12 ; B29C 47/32 ; B29C 47/88 ; B29D 7/01 ; B29L 7/00 ;**

Derwent Classes: **A32;**

Manual Codes: **A11-B07A**(Of film and sheet) , **A11-B07D**(Associated processes) , **A11-C04**(Surface treatment) , **A12-S07**(Sheet)



Derwent Abstract (DE19524076C) A velvety surface-structured sheet is made in this process, by applying molten thermoplastic to a temperature-controlled rotating cylinder. This roller has a surface, which is a negative mould for the required surface structure. The plastic is exuded onto this surface (5) over a front (17) parallel to the roller (4) axis. Complete contact is made, during which the plastic is structured and cooled, solidifying it. It is then pulled off the roller. The novel feature is exposure of the roller to a locally-reduced pressure, which is at a maximum just before the outflow front. This evacuates the matrix cavities just ahead of application, hence inducing the plastic, which largely fills them.

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Also claimed is the appts. to make the sheet

Pref. the reduced pressure between is 0.1-3.0 bar; pref. 0.1-0.3 bar. Cooling-off and hardening is effected over a roller rotation angle of some 180-300deg., by a forced cooling airflow. To make the velvet-surfaced product, esp. a plastic sheet, the matrix has numerous fine pores.

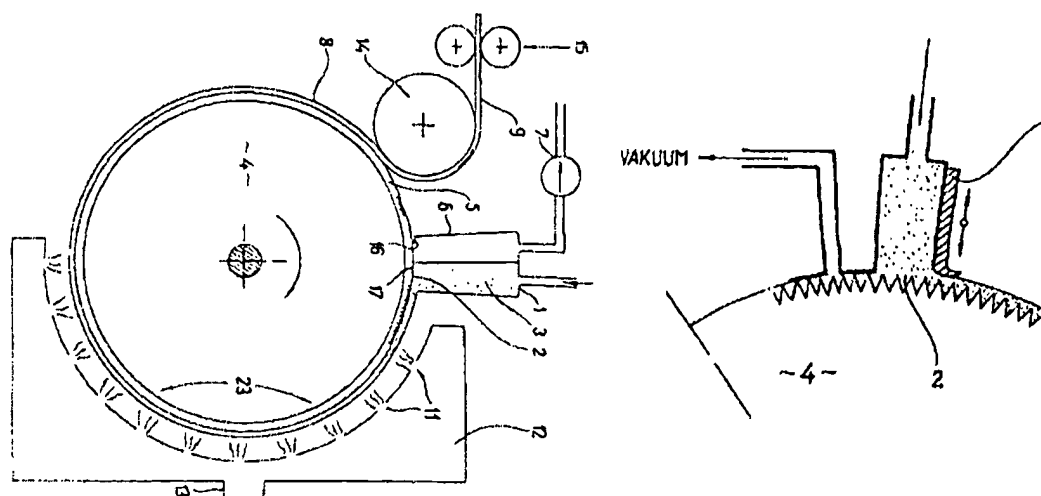
**Use** - To make a sheet thermoplastic with a finely structured surface.

**Advantage** - This process is capable of producing a great variety of structured surfaces, esp. a velour- or velvet type finish with numerous projecting fibrous lengths. Vacuum ensures that the surface matrix will be adequately filled by the plastic, allowing the production of very fine surface detail. Fibre lengths exceeding 3 mm, at diameters down to about 0.01 mm are feasible, with about 5000 laser-produced cavities per cm<sup>2</sup>. The product may be backed with reinforcing fabric. Six process examples are provided in the text.

Abstract info: **DE19524076C: Dwg.1/3 , EP0836549B:**

Images:

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Family:	Patent	Pub. Date	DW Update	Pages	Language	IPC Code
	<b>DE19524076C1 *</b>	Oct. 24, 1996	199647	10	German	B29C 41/26
	Local appls.: DE1995001024076 ApplDate:1995-07-01 (95DE-1024076)					
	<b>ES2152542T3 =</b>	Feb. 01, 2001	200112		Spanish	B29C 43/22
	Local appls.: Based on EP00836549 (EP 836549)					
	EP1996000923970 ApplDate:1996-06-28 (96EP-0923970)					
	<b>DE59605920G =</b>	Oct. 26, 2000	200055		German	B29C 43/22
	Local appls.: Based on WO9702128 (WO 9702128)					
	Based on EP00836549 (EP 836549)					
	DE1996000505920 ApplDate:1996-06-28 (96DE-0505920)					
	EP1996000923970 ApplDate:1996-06-28 (96EP-0923970)					
	WO1996EP0002833 ApplDate:1996-06-28 (96WO-EP02833)					
	<b>EP0836549B1 =</b>	Sept. 20, 2000	200047	14	German	B29C 43/22
	Des. States: (R) AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
	Local appls.: Based on WO9702128 (WO 9702128)					
	EP1996000923970 ApplDate:1996-06-28 (96EP-0923970)					
	WO1996EP0002833 ApplDate:1996-06-28 (96WO-EP02833)					
	<b>JP11508501W =</b>	July 27, 1999	199940	37	English	B29C 41/50
	Local appls.: Based on WO9702128 (WO 9702128)					
	WO1996EP0002833 ApplDate:1996-06-28 (96WO-EP02833)					
	JP1997000504798 ApplDate:1996-06-28 (97JP-0504798)					
	<b>EP0836549A1 =</b>	April 22, 1998	199820		German	B29C 43/22
	Des. States: (R) AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
	Local appls.: Based on WO9702128 (WO 9702128)					
	WO1996EP0002833 ApplDate:1996-06-28 (96WO-EP02833)					
	EP1996000923970 ApplDate:1996-06-28 (96EP-0923970)					
	<b>AU9664184A =</b>	Feb. 05, 1997	199721		English	B29C 43/22
	Local appls.: Based on WO9702128 (WO 9702128)					
	AU1996000064184 ApplDate:1996-06-28 (96AU-0064184)					
	<b>WO9702128A1 =</b>	Jan. 23, 1997	199710	32	German	B29C 43/22
	Des. States: (N) AU BG BR BY CA CZ HU JP KP KR KZ LK MG NO NZ PL RO RU SK UA US VN					
	(R) AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					

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Local appls.: WO1996EP0002833 ApplDate:1996-06-28 (96WO-EP02833)

Priority Number:

Application Number	Application Date	Original Title
DE1995001024076	July 01, 1995	

Extended Polymer Index: [Show extended polymer index](#)

Citations: US02681294  
 US3374303 : METHOD FOR MANUFACTURING IMPRINTED PLASTIC FILM  
 US3515778 : CONTINUOUS MOLDING OF THERMOPLASTIC RESIN  
 US3551544 : METHOD OF CONTINUOUSLY FORMING AN ELONGATED CLEATED F  
 PLASTIC MATERIAL  
 US3555601 : APPARATUS FOR CONTINUOUSLY FORMING CONICAL SHAPED CLE  
 THERMOPLASTIC SHEET  
 US4445458 : BEVELED EDGE METERED BEAD EXTRUSION COATING APPARATUS

Related Accessions:

Accession Number	Type	Derwent Update	Derwent Title
C1996-146296	C		
1 item found			

Title Terms: ROLL MOULD FINE FIBRE VELOUR FINISH SURFACE EXTRUDE THERMOPLASTIC  
 PLASTIC NEGATIVE MATRIX CASING ROLL HAIR FINE CONICAL MOULD CAVITY  
 CONJUNCTION VACUUM SHIELD ENSURE COMPLETE FILL MELT

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